General

Guideline Title

Best evidence statement (BESt). Functional communication training and treatment of problem behavior.

Bibliographic Source(s)

Cincinnati Children's Hospital Medical Center. Best evidence statement (BESt). Functional communication training and treatment of problem behavior. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2012 Dec 4. 6 p. [15 references]

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

The strength of the recommendation (strongly recommended, recommended, or no recommendation) and the quality of the evidence (1aâ€'5b) are defined at the end of the "Major Recommendations" field.

It is recommended that children with severe communication deficits receive functional communication training (FCT) when treating problem behavior in an inpatient or outpatient setting in order to decrease aggression and self-injury (Kurtz et al., 2003 [4a]; Hagopian, Wilson, & Wilder, 2001 [4a]; Bowman et al., 1997 [4a]; Fisher et al., 1998 [4a]; Fisher, Kuhn, & Thompson, 1998 [4a]; Hagopian et al., 1998 [4a]; Fisher et al., 1993 [4a]; Wacker et al., 1990 [4a]; Matson et al., 2008 [5a]; Kahng, Hendrickson, & Vu, 2000 [5a]).

> Note: FCT was often used in combination with additional behavioral interventions. FCT was most frequently combined with extinction (Kurtz et al., 2003 [4a]; Hagopian et al., 1998 [4a]; Fisher et al., 1998 [4a]; Fisher, Kuhn, & Thompson, 1998 [4a]; Bowman et al., 1997 [4a]; Fisher et al., 1993 [4a]), punishment (Kurtz et al., 2003 [4a]; Hagopian et al., 1998 [4a]; Fisher et al., 1993 [4a]) or as part of a multi-component treatment package (Matson et al., 2008 [5a]).

Definitions:

Table of Evidence Levels

Quality Level	Definition
1a† or 1b†	Systematic review, meta-analysis, or meta-synthesis of multiple studies
2a or 2b	Best study design for domain
3a or 3b	Fair study design for domain

Quality Level	Definition
4a or 4b	Weak study design for domain
5a or 5b	General review, expert opinion, case report, consensus report, or guideline
5	Local Consensus

†a = good quality study; b = lesser quality study

Table of Recommendation Strength

Strength	Definition
It is strongly recommended that… It is strongly recommended that… not…	When the dimensions for judging the strength of the evidence are applied, there is high support that benefits clearly outweigh risks and burdens. (or visa-versa for negative recommendations)
It is recommended that… It is recommended that… not…	When the dimensions for judging the strength of the evidence are applied, there is moderate support that benefits are closely balanced with risks and burdens.
There is insufficient evidence and a lack of consensus to make a recommendation…	

Note: See the original guideline document for the dimensions used for judging the strength of the recommendation.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Severe communication deficits

Guideline Category

Management

Treatment

Clinical Specialty

Family Practice

Internal Medicine

Pediatrics

Physical Medicine and Rehabilitation

Speech-Language Pathology

Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Speech-Language Pathologists

Guideline Objective(s)

To evaluate, among children with severe communication deficits receiving inpatient or outpatient treatment for problem behavior, if functional communication training leads to decreased aggression and self-injurious behavior

Target Population

Inclusion criteria:

- Children ages 3-21 years
- Present with severe communication impairments
- May include diagnoses of autism, cognitive impairments, or developmental disability
- Receiving inpatient or outpatient treatment for severe problem behavior that includes aggression and/or self-injury

Interventions and Practices Considered

Functional communication training (FCT)

Major Outcomes Considered

Aggression and self-injurious behavior

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Search Strategy

- Databases: PubMed, PsychInfo, Medline, and CINAHL plus with full text
- Search Terms: functional communication, functional communication training, autism, problem behavior, aggressive behavior, picture exchange communication system, sign language, speech-language pathology, augmentative alternative communication
- Search Dates, limits, filters: 1980-2012; English language
- Date Last Searched: 3/12/2012

Number of Source Documents

An extensive literature search revealed 10 studies that investigated the use of Functional communication training (FCT) to treat problem behavior in the inpatient and/or outpatient settings.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Table of Evidence Levels

Quality Level	Definition
1a† or 1b†	Systematic review, meta-analysis, or meta-synthesis of multiple studies
2a or 2b	Best study design for domain
3a or 3b	Fair study design for domain
4a or 4b	Weak study design for domain
5a or 5b	General review, expert opinion, case report, consensus report, or guideline
5	Local Consensus

†a = good quality study; b = lesser quality study

Methods Used to Analyze the Evidence

Systematic Review

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Not stated

Rating Scheme for the Strength of the Recommendations

Table of Recommendation Strength

Strength	Definition
It is strongly recommended that… It is strongly recommended that… not…	When the dimensions for judging the strength of the evidence are applied, there is high support that benefits clearly outweigh risks and burdens. (or visa-versa for negative recommendations)

Strength	Definition
It is recommended that…	When the dimensions for judging the strength of the evidence are applied, there is moderate support that benefits are closely balanced with risks and burdens.
It is recommended that… not…	
There is insufficient evidence and a lack of consensus to make a recommendation…	

Note: See the original guideline document for the dimensions used for judging the strength of the recommendation.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Peer Review

Description of Method of Guideline Validation

This Best Evidence Statement has been reviewed against quality criteria by two independent reviewers from the Cincinnati Children's Hospital Medical Center (CCHMC) Evidence Collaboration.

Evidence Supporting the Recommendations

References Supporting the Recommendations

Bowman LG, Fisher WW, Thompson RH, Piazza CC. On the relation of mands and the function of destructive behavior. J Appl Behav Anal. 1997 Summer;30(2):251-64; quiz 264-5. PubMed

Fisher W, Piazza C, Cataldo M, Harrell R, Jefferson G, Conner R. Functional communication training with and without extinction and punishment. J Appl Behav Anal. 1993 Spring;26(1):23-36. PubMed

Fisher WW, Adelinis JD, Thompson RH, Worsdell AS, Zarcone JR. Functional analysis and treatment of destructive behavior maintained by termination of "don't" (and symmetrical "do") requests. J Appl Behav Anal. 1998 Fall;31(3):339-56. PubMed

Fisher WW, Kuhn DE, Thompson RH. Establishing discriminative control of responding using functional and alternative reinforcers during functional communication training. J Appl Behav Anal. 1998 Winter;31(4):543-60. PubMed

Hagopian LP, Fisher WW, Sullivan MT, Acquisto J, LeBlanc LA. Effectiveness of functional communication training with and without extinction and punishment: a summary of 21 inpatient cases. J Appl Behav Anal. 1998 Summer;31(2):211-35. PubMed

Hagopian LP, Wilson DM, Wilder DA. Assessment and treatment of problem behavior maintained by escape from attention and access to tangible items. J Appl Behav Anal. 2001 Summer;34(2):229-32. PubMed

Kahng SW, Hendrickson DJ, Vu CP. Comparison of single and multiple functional communication training responses for the treatment of problem behavior. J Appl Behav Anal. 2000 Fall;33(3):321-4. PubMed

Kurtz PF, Chin MD, Huete JM, Tarbox RS, O'Connor JT, Paclawskyj TR, Rush KS. Functional analysis and treatment of self-injurious behavior in young children a summary of 30 cases. J Appl Behav Anal. 2003 Summer;36(2):205-19. PubMed

Matson JL, LoVullo SV, Boisjoli JA, Gonzalez ML. The behavioral treatment of an 11-year-old girl with autism and aggressive behaviors. Clin Case Studies. 2008;7(4):313-26.

Wacker DP, Steege MW, Northup J, Sasso G, Berg W, Reimers T, Cooper L, Cigrand K, Donn L. A component analysis of functional communication training across three topographies of severe behavior problems. J Appl Behav Anal. 1990 Winter;23(4):417-29. PubMed

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

The risk of harm from aggression and self-injurious behavior is reduced with functional communication training

Potential Harms

Not stated

Qualifying Statements

Qualifying Statements

This Best Evidence Statement addresses only key points of care for the target population; it is not intended to be a comprehensive practice guideline. These recommendations result from review of literature and practices current at the time of their formulation. This Best Evidence Statement does not preclude using care modalities proven efficacious in studies published subsequent to the current revision of this document. This document is not intended to impose standards of care preventing selective variances from the recommendations to meet the specific and unique requirements of individual patients. Adherence to this Statement is voluntary. The clinician in light of the individual circumstances presented by the patient must make the ultimate judgment regarding the priority of any specific procedure.

Implementation of the Guideline

Description of Implementation Strategy

Applicability Issues

- Prior to the implementation of functional communication training, a comprehensive assessment should be completed that includes evaluation of the child's cognitive and language abilities. Language assessments can include formal and informal measures and should be completed by a trained professional, typically a speech-language pathologist. The American Speech-Language Hearing Association (ASHA) states that speech-language pathologists should have the knowledge and skills to assess the relationship between communication and behavior. Because functional communication training is often used with children who are non-verbal or have limited speech, knowledge and skills about augmentative and alternative communication (AAC) is required. When determining the appropriate type of AAC several factors should be considered including the needs, abilities, and preferences of users and their communication partners, cultural, linguistic and

environmental factors, and any co-existing uses of other types of assistive technology.

- Communication replacement behaviors should be selected based on the functions of the problem behaviors, determined by completion of a functional analysis.
- In order for direct care staff to be able to reinforce and document on functional communication goals they need to have an understanding of what functional communication is and how it relates to treatment of problem behavior. Educational programs focusing on functional communication need to be available to direct care providers.
- Functional communication materials and procedures can be included in the unit intervention plan to improve consistency of implementation across staff and shifts. This requires collaboration across disciplines.

Implementation Tools

Audit Criteria/Indicators

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Identifying Information and Availability

Bibliographic Source(s)

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Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2012 Dec 4

Guideline Developer(s)

Cincinnati Children's Hospital Medical Center - Hospital/Medical Center

Source(s) of Funding

Cincinnati Children's Hospital Medical Center

Guideline Committee

Not stated

Composition of Group That Authored the Guideline

Team Leader/Author: April Nelson MA, CCC-SLP

Support/Consultant: Mary Ellen Meier MSN, RN, CPN, Center for Professional Excellence; Evidence-Based Practice Mentor

Financial Disclosures/Conflicts of Interest

Conflict of interest declaration forms are filed with the Cincinnati Children's Hospital Medical Center Evidence-based Decision Making (CCHMC EBDM) group.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available from the Cincinnati Children's Hospital Medical Center Web site .

Print copies: For information regarding the full-text guideline, print copies, or evidence-based practice support services contact the Cincinnati Children's Hospital Medical Center Health James M. Anderson Center for Health Systems Excellence at EBDMInfo@cchmc.org.

Availability of Companion Documents

The following are available:

- Judging the strength of a recommendation. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2008 Jan. 1 p. Available from the Cincinnati Children's Hospital Medical Center Web site .
- Grading a body of evidence to answer a clinical question. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 1 p. Available from the Cincinnati Children's Hospital Medical Center Web site .
- Table of evidence levels. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2008 Feb 29. 1 p. Available from the Cincinnati Children's Hospital Medical Center Web site .

Print copies: For information regarding the full-text guideline, print copies, or evidence-based practice support services contact the Cincinnati Children's Hospital Medical Center Health James M. Anderson Center for Health Systems Excellence at EBDMInfo@cchmc.org.

In addition, suggested process or outcome measures are available in the original guideline document .

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on April 8, 2013.

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